CLAIMS

1. A film, comprising:

a first polymer, comprising a plurality of hydrogen bond donating moieties, and

a second polymer, comprising a plurality of hydrogen bond accepting moieties.

2. The film of claim 1, wherein at least one of said first polymer and said second polymer comprise a plurality of charge-forming groups.

3. The film of claim 2, wherein said hydrogen bond donating moieties are selected from the group consisting of O-H, N-H, P-H and S-H.

4. The film of claim 2, wherein said hydrogen bond accepting moieties are selected from the group consisting of C=O, O-H, N-H, C-F, P=O and C≡N.

5. The film of claim 2, wherein said charge-forming groups are selected from the group consisting of acids and bases.

6. The film of claim 3, wherein said hydrogen bond accepting moieties are selected from the group consisting of C=O, O-H, N-H, C-F, P=O and C≡N.

7. The film of claim 6, wherein said charge-forming groups are selected from the group consisting of acids and bases.

8. The film of claim 7, wherein said first polymer or said second polymer comprises carboxylic acid groups.

9. The film of claim 2, wherein said first polymer and said second polymer do not contain, first and second oppositely charged groups, respectively.

10. The film of claim 1, wherein said first polymer and said second polymer are bonded together through hydrogen bonds.

11. A film, comprising:
a first polymer, and
a second polymer, hydrogen bonded to the first polymer.

12. The film of claim 11, wherein at least one of said first polymer and said second polymer comprise a plurality of charge-forming groups.

13. The film of claim 12, wherein said charge-forming groups are selected from the group consisting of acids and bases.

14. The film of claim 13, wherein said first polymer or said second polymer comprises carboxylic acid groups.

15. The film of claim 11, wherein said first polymer and said second polymer do not contain, first and second oppositely charged groups, respectively.

16. The film of claim 14, wherein said first polymer and said second polymer do not contain, first and second oppositely charged groups, respectively.

17. A surface, coated with the film of claim 1.

18. A surface, coated with the film of claim 6.

19. A surface, coated with the film of claim 8.

20. A surface, coated with the film of claim 11.

21. A surface, coated with the film of claim 16.

22. The film of claim 1, further comprising an agent.

23. The film of claim 22, wherein said agent is a bioactive agent.

24. The film of claim 6, further comprising an agent.

25. The film of claim 24, wherein said agent is a bioactive agent.

26. The film of claim 8, further comprising an agent.

27. The film of claim 26, wherein said agent is a bioactive agent.

28. The film of claim 11, further comprising an agent.

29. The film of claim 28, wherein said agent is a bioactive agent.

30. The film of claim 16, further comprising an agent.

31. The film of claim 30, wherein said agent is a bioactive agent.

32. A method of forming a film, comprising:

contacting a surface with a first polymer, comprising a plurality of hydrogen bond donating moieties, and

contacting said surface with a second polymer, comprising a plurality of hydrogen bond accepting moieties.

33. The method of claim 32, wherein each of said first polymer and said second polymer are present as solutions.

34. The method of claim 33, further comprising:

again contacting said surface with said first polymer, and

again contacting said surface with said second polymer.

35. The method of claim 32, wherein said contacting said surface with said second polymer is prior to said contacting said surface with said first polymer.

36. The method of claim 33, wherein at least one of said first polymer and said second polymer comprise a plurality of charge-forming groups.

37. The method of claim 36, wherein said hydrogen bond donating moieties are selected from the group consisting of O-H, N-H, P-H and S-H.

38. The method of claim 36, wherein said hydrogen bond accepting moieties are selected from the group consisting of C=O, O-H, N-H, C-F, P=O and C≡N.

39. The method of claim 36, wherein said charge-forming groups are selected from the group consisting of acids and bases.

40. The method of claim 37, wherein said hydrogen bond accepting moieties are selected from the group consisting of C=O, O-H, N-H, C-F, P=O and C≡N.

41. The method of claim 40, wherein said charge-forming groups are selected from the group consisting of acids and bases.

42. The method of claim 41, wherein said first polymer or said second polymer comprises carboxylic acid groups.

43. The method of claim 36, wherein said first polymer and said second polymer do not contain, first and second oppositely charged groups, respectively.

44. The method of claim 36, wherein said first polymer and said second polymer are bonded together through hydrogen bonds.

45. The method of claim 36, wherein at least one of said solutions of said first polymer and said second polymer comprises an agent.

46. The method of claim 45, wherein said agent is a bioactive agent.

47. A method of removing the film of claim 1, comprising subjecting the film to an environmental change selected from a change in pH, a change in ionic strength, exposure to an electric field, or exposure to dissolved ions.

48. A method of removing the film of claim 6, comprising subjecting the film to an environmental change selected from a change in pH, a change in ionic strength, exposure to an electric field, or exposure to dissolved ions.

49. A method of removing the film of claim 8, comprising subjecting the film to an environmental change selected from a change in pH, a change in ionic strength, exposure to an electric field, or exposure to dissolved ions.

50. A method of removing the film of claim 11, comprising subjecting the film to an environmental change selected from a change in pH, a change in ionic strength, exposure to an electric field, or exposure to dissolved ions.

51. A method of removing the film of claim 16, comprising subjecting the film to an environmental change selected from a change in pH, a change in ionic strength, exposure to an electric field, or exposure to dissolved ions.